

IN THE CLAIMS:

Please cancel claims 1-25 and add new claims 26-41 as follows:

1-25. (Cancelled)

26. (New) A method for acquiring an image of the heart of a patient by automatically and prospectively triggering an image-acquisition scan during a cardiac cycle, comprising:

activating a cardiac imaging apparatus to receive electrical signals to measure the length of an R-R interval of the cardiac cycle;

automatically calculating the length of the R-T segment using software that operates the cardiac imaging apparatus;

automatically and prospectively triggering the image-acquisition scan at a point determined by the software based on the measurement of the R-R interval and the R-T segment; and displaying the image.

27. (New) The method of claim 26 wherein the step of calculating the R-T segment length includes determining the gender of the patient and the R-R interval length.

28. (New) The method of claim 26 wherein the step of triggering the image acquisition scan is achieved by the software based on a speed of the image-acquisition scan.

29. (New) The method of claim 26 wherein the software applies the algorithm $RT \pm X$, where said X value depends on the R-R interval length and a speed of said image-acquisition scan.

30. (New) The method of claim 28 wherein the speed of the image-acquisition scan is within the range of about 15 ms to about 75 ms.

31. (New) The method of claim 28 wherein the speed of the image-acquisition scan is within the range of about 76 ms to about 150 ms.

32. (New) The method of claim 28 wherein the speed of the image-acquisition scan is within the range of about 151 ms to about 225 ms.

33. (New) The method of claim 28 wherein the speed of the image-acquisition scan is within the range of about 226 ms to about 300 ms.

34. (New) The method of claim 28 whereby the optimal scan starting point may dynamically vary with each cardiac cycle.

35. (New) A cardiac imaging apparatus comprising:
a transmitter that generates an image-acquisition scan;
an input console adapted to input data;
electrical leads capable of detecting an R-R interval of a cardiac cycle; and
software that measures the length of the R-R interval of the cardiac cycle, wherein the software calculates the length of the R-T segment of the cardiac cycle, and operates an ECG gating device communicating with the transmitter to prospectively trigger an image-acquisition scan at an optimal scan starting point.

36. (New) The apparatus of claim 35 wherein the software is adapted to measure the speed of the image acquisition scan.

37. (New) The apparatus of claim 35 comprising a magnetic resonance imaging device.

38. (New) The apparatus of claim 35 comprising a spiral computer tomography scanner.

39. (New) The apparatus of claim 35 comprising an electron beam tomography scanner.

40. (New) The apparatus of claim 35 wherein the software calculates the optimal scan starting point with each cardiac cycle.

41. (New) The apparatus of claim 35 wherein the software receives data from the input console and stores a gender of a patient.

Respectfully submitted,

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